

**IN THE SPECIFICATION:**

Before Paragraph 1, please delete the following:

~~GAS GENERATING CELL OR BATTERY AND METHOD OF PRODUCING SAME~~

Before Paragraph 1, please insert the following:

**BACKGROUND AND SUMMARY**

**[0001]** The ~~invention~~ present disclosure relates to a gas generating cell or to a battery consisting of several such cells according to the preamble of Claim 1, and to a method according to the preamble of Claim 7 of producing the gas generating cell.

**[0002]** A hydrogen generating cell of the above-mentioned type is known from German Patent Document DE 35 32 335 C2. This hydrogen generating cell has a zinc anode, a hydrogen cathode and an alkaline electrolyte, ~~in which case the~~. The cathode consists of a PTFE-bound metal and/or carbon powder layer which is placed into a metallic network as a current conductor and, on the side preferably facing away from the network, contains a porous PTFE foil which is laminated on, for example, rolled on. This cell can be implemented, for example, by using a zinc/air cell of a commercially available construction, in which case, while air and oxygen are excluded, by closing an exterior circuit, a current flow, which generates hydrogen inside the cell, is generated. The hydrogen leaves the cell by an opening in the housing.

**[0003]** This construction has been successful, which creates the need of being able to implement in a simple manner also cells which have a higher capacity than the commercially available zinc/air cells.

**[0004]** It is an object of the invention to solve this problem.

**[0005]** The ~~invention~~ solves this problem by means of the object of Claim 1.

**[0006]** The ~~invention~~ also solves this problem by means of the method indicated in Claim 7. The present disclosure relates to a gas generating cell including a housing having a cover, an anode cup and a sealing ring. The housing accommodates at least one anode, a cathode and a separator. The cover accommodates at least the cathode and the separator and, with the sealing ring, forms a preassembled unit to be inserted into the anode cup. The present disclosure also relates to a method of producing a gas generating cell, the gas generating cell including a housing having a cover, an anode cup, a sealing ring, and at least one anode, a cathode and a separator. The method steps include: placing at least the cathode and separator into the cover, thereby creating a preassembled unit; and, inserting the preassembled unit and a sealing ring into the anode cup.

[0007] The present disclosure makes use of an inverse construction eliminates the ~~restrictions of the gas generating cell to address, among other aspects, for example, a need for cells having higher capacity than known zinc/air cells, existing so far in this respect.~~

[0008] Accordingly, at least the cathode and the separator are accommodated in the cover, and, together with these elements and the sealing ring, the cover forms a preassembled unit for an insertion into the anode cup.

[0009] Additional advantageous further developments of the invention are contained in the remaining subclaims.

[00010] In comparison to the conventional zinc/air cells and the gas generator cells according to the currently existing construction, the ~~new~~ gas generating cell of the present disclosure has considerable advantages ~~different aspects~~. Thus, the cover of the conventional cell is filled with the zinc powder and the electrolyte, for example, is in the form of a zinc gel. The gas electrode is situated in the cup and lies on the cup bottom which, for the exchange of gas in the environment, has a breathing hole. Because of this (inverse) arrangement, the cover part must be rotated during the mounting of the cell with its liquid content by 180°, which is a measure which is hard to carry out in a clean manner in the case of cells with a fairly large content. The cup part with the gas electrode element which lies flat on it often presents problems during the operation, particularly when, during the closing of the cell, warping has occurred in the edge area of the electrode.

[00011] In contrast, the ~~assembly of the~~ gas generating cell, according to the invention is almost problem free, also in the case of large units. The present disclosure has a cup, which now operates as the anode part, and which can be filled with the required quantity of zinc and electrolyte, whatever the form. It remains in this position. The cathode element is placed on it and is then closed off.

[00012] As a result of the optional sheet metal dome with the breathing hole, which arches over the gas cathode, a gas chamber is created which can be closed off by bonding agents and is disposed in front of the environment of the cell with which the cell corresponds. In this manner, it can be achieved to keep CO<sub>2</sub> and other harmful gases away from the interior of the cell and to minimize water losses to the environment.

[00013] ~~The A~~ collar or flange constructed according to the ~~invention also present~~ disclosure permits ~~new~~ a variety of embodiments of the apparatuses equipped with these cells, ~~which can be held as well as contacted thereby~~. The preassembled cathode unit with the sealing ring is easy to manufacture and dispose and can then be combined as an equal part with anode cups of varying depths but with a constant diameter, in order to produce cells of a different ~~(gas generating)~~ gas generating capacity. In this manner, batteries (particularly zinc/air cells) as well as gas generating cells (particularly hydrogen generating cells) can easily be implemented.

[00014] ~~In the following the invention will be explained in detail with reference to the drawing. Other aspects of the present disclosure will become apparent from the following descriptions when considered in conjunction with the accompanying drawings.~~

Before Paragraph 15, please insert the following:

#### BRIEF DESCRIPTION OF THE DRAWINGS

[00015] Figure 1 is a sectional view of a gas generating cell according to the ~~invention present disclosure~~;

[00016] Figure 2 is a sectional view of the cover before the assembly of the cathode unit, ~~according to the present disclosure~~.

[00017] Figure 3 is a sectional view of the anode cup before the assembly, according to the present disclosure.

Before Paragraph 18, please insert the following:

#### DETAILED DESCRIPTION OF THE DRAWINGS

[00018] ~~The A~~ cover 1, illustrated in Figure 2, which ~~is~~ may be a deep-drawn part made of conductive sheet metal, has a cylindrical section 2 and a bottom 3 closing off this section 2 at one of its ends. ~~around the~~ Around a center point of the bottom 3, a centric hole 4 ~~being~~ is constructed which permits the exiting of gas from the gas generating cell 20 (see Figure 1). A ring groove 5 is also constructed in the bottom 3.

[00019] During the assembly of the cell 20, a nickel foam (Ni foam) 6 (optional) ~~which covers~~ may be used to cover the bottom 3, including the ring groove 5, and the bottom 3 ~~inside the ring groove 6~~ and which nickel foam 6 guides the gas to the hole 4, and a A cathode or cathode disk 7 may be adapted to the or placed into an inside diameter of the cover 1, and a separate ~~(here not shown separately;~~ for example, a disk-shaped gas

diffusion electrode with a separator coating; see (not shown here, but see German Patent Document DE 35 32 335 C2) are successively placed into the cover 1.

**[00020]** Then the cylindrical section 2 is shaped (flanged) or flanged radially toward the an interior of an anode cup 10 (see Figure 3), and anAn insulating or sealing ring 8, which may be made of an insulating material, is pressed over the flanged area 14 which sealing ring 8, on its interior side, has a groove 15 for receiving the flanged area or collar 14.

**[00021]** A result of the above assembly is a preassembled cathode unit 9 is produced in this manner, as shown in Figure 1.

**[00022]** The anode cup 10 ismay also be constructed as a deep-drawn part made of conductive sheet metal and can be filled with an anode material 16, such as zinc gel. It hasThe anode cup 10 may have a cylindrical jacket 11 of a depth T, a (see Figure 3). A ring step 12 beingis constructed in the cylindrical jacket 11 and having a slightly larger inside diameter than thean outside diameter of the preassembled cathode unit 9, so that the lattercathode unit 9 can be fitted from above into the anode cup 10.

**[00023]** After the fitting-in of the cathode unit 9, thean edge of the anode cup 10, in the an area above the ring step 12, is shaped (flanged) or flanged toward the interiorofthe anode cup 10, so that the cathode unit 9 is framed by the anode cup 10.

**[00024]** The preassembled cathode unit 9 can be assembled with anode cups 10 of different depths 10, so that gas generating cells 20 of many different capacities can be easily implemented with a high use of equal parts.

**[00025]** The cover 1 and the anode cup 10, together with the sealing ring 8, form thea metallic housing 13 of the gas generating cell 20.

**Please add the following new Paragraph:**

**[00025.5]** Although the present disclosure has been described and illustrated in detail, it is to be clearly understood that this is done by way of illustration and example only and is not to be taken by way of limitation. The spirit and scope of the present disclosure are to be limited only by the terms of the appended claims.

## [00026] List of Reference Numbers

Cover 1  
cylindrical section 2  
bottom 3  
hole 4  
ring groove 5  
Ni foam 6  
cathode disk 7  
sealing ring 8  
cathode unit 9  
anode cup 10  
jacket 11  
ring step 12  
housing 13  
flanged area 14  
groove 15  
anode material 16

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